Section 7: Harmful algae blooms in the Maryland Coastal Bays

General Introduction

Harmful algae blooms (HABs) are being reported with increasing frequency worldwide. The presence of such blooms has produced economic losses related to decreased recreational and commercial fishing, declines in tourism, public illness, medical treatment costs, and increased expenditures for monitoring programs diverted from other programs (Bushaw-Newton and Sellner 1999). Thirteen potentially harmful algae species that have been identified in the Coastal Bays: *Aureococcus anophagefferens* (brown tide), *Pfiesteria piscicida, P. shumwayae, Chattonella* cf. *verruculosa, Heterosigma akashiwo, Fibrocapsa japonica, Prorocentrum minimum, Dinophysis acuminata., Amphidinium operculatum, Pseudo-nitzchia* sp., *Karlodinium micrum,* and two macroalgae genera (*Gracilaria* and *Chaetomorpha*)

Algae may become harmful if they occur in an exceptionally large abundance that can result in low oxygen conditions and decreased light to underwater grasses. Also, some species of algae produce toxins affecting aquatic living resources or human health. Some high biomass blooms may produce surface scums, wash up on shore producing noxious odors, or otherwise become aesthetically unpleasing. Fish and shellfish kills may result from low oxygen conditions while some HABs interfere with the feeding or breathing of fish and shellfish. **Of the approximately 200 species of algae presently recognized though the Coastal Bays monitoring program, roughly five percent are believed to have the ability to produce toxic substances**. The following chapters outline the results of monitoring for these potentially harmful organisms. Brown tide receives special treatment because of recent large-scale blooms in the Coastal Bays.

Reference

Bushaw-Newton, K.L. and K.G. Sellner 1999. Harmful Algal Blooms. In: NOAA's State of the Coast Report. Silver Spring, MD: National Oceanic and Atmospheric Administration. Website: http://state-of-coast.noaa.gov/bulletins/html/hab_14/hab.html